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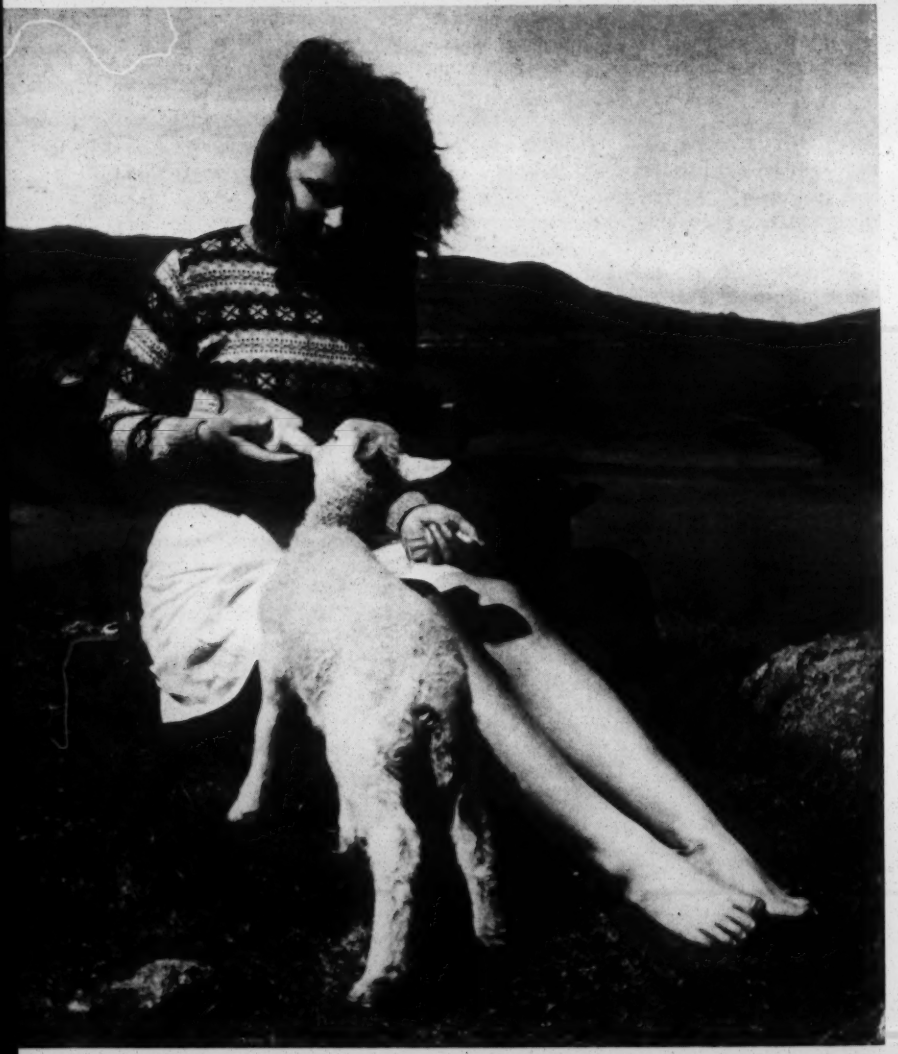


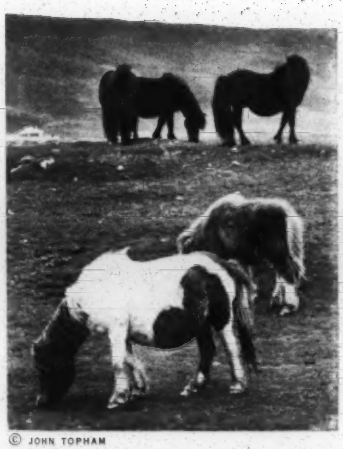
KEYSTONE-ILLUSTRATED

Shetland Island lambs will yield wool for prized sweaters. Instead of shearing, Islanders hand-pluck fleece

Because of Easter vacation there will be no Bulletins Apr. 22; next issue will be Apr. 29

CONTENTS

- ► Shetland Islands
- ► California's Horn of Plenty
- ► Rare Rhinos of Asia
- ► Teacher in Cambodia
- ► New World of Rockets



© JOHN TOPHAM

MYSTERY *cloaks the origin of Shetland ponies (left). One theory is that they came from Siberia, through Norway, then across the North Sea to find a new home on the islands*

(C) NGS MAP

shaggy coats. They roam the outdoors throughout the year. Rarely is there enough pasture. Patiently they forage, sure hoofs picking paths among rocks. But the tough life makes the little fellows strong and spunky. Shetland ponies have won a name for themselves around the world. Animals sometimes sell for thousands of dollars in the United States.

Noss Island is almost uninhabited. Recently proclaimed a nature reserve, its crannies and ledges are havens for birds—gannets and guillemots, kittiwakes and razorbills. Puffins, looking like gaily-painted little clowns, crowd cliffs.

Squawking gulls fill the harbor at Lerwick, Shetland's capital, below, on the largest island, Mainland. Once it echoed to voices of whalers bound for the Arctic. Today fishing fleets from Scottish and Dutch ports search near-by herring shoals. Change comes slowly. Perhaps the islanders want it that way.—J.A.

J. D. RATTAR

Vikings with their long ships once sailed into Lerwick's harbor

UMI

JOHN PETERSON

Shetland Islands

NOWHERE in the Shetland Islands can you wander farther than three miles from the sea. Dwellers of small farms live with its sounds, breathe its salty winds, endure its tempers. They gaze at gentle, gale-whipped hills, listen to breakers thudding against the coast, and often perform field chores mid flying spray. Seldom are farms as clear as above.

The 100 North Sea islands and islets of Shetland form a part of Scotland. But Bergen, Norway, is almost as near as Aberdeen, Scotland. Old Norse words and phrases color the speech of Shetland Islanders. In this northern latitude, bleak winters slip into nightless summers, the time of the "simmer dim." Sunrise follows sunset with only minutes between.

Life is simple. Fishermen come home to small cottages, weathered outside, warm within. Heather blooms. Sheep graze, and their fine wool is sent abroad. Some handwork survives. Housewives pass long hours knitting to turn out such sweaters as the one shown on the cover. Such islands as Unst still boast a few "lace knitters". With patient hands they fashion feather-light shawls that resemble soft lace.

Life is rugged, too—not only for the islanders but for the small ponies that wander Shetland moors. Gales strong enough to flatten sea waves lash their

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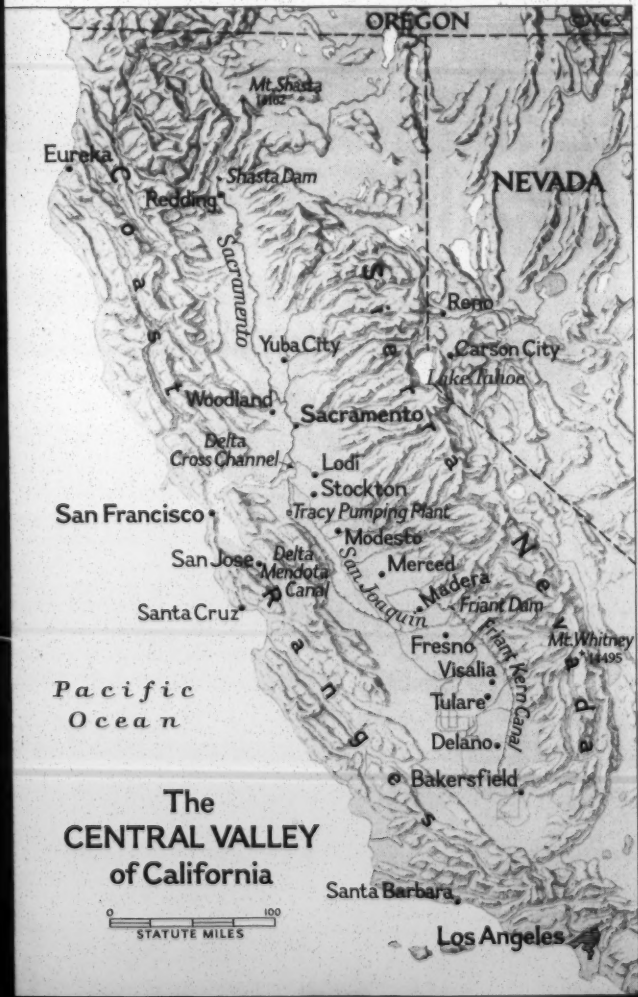
provide 9,000 gallons for every man, woman, and child in the United States.

When needed, Shasta's water empties into the Sacramento River, major Valley watercourse rising near Mount Shasta. Other rivers feed the Sacramento—the Feather, the Yuba, the American. Around San Francisco Bay, where the Sacramento flows to the sea, a system of canals and pumps lifts the water 200 feet and sends it south to water dry regions. Hundreds of thousands of acres turn green under irrigation, contribute their yields to the Valley's enormous bounty.

A second major river, the San Joaquin, rising north of Mount Whitney (14,495 ft.), is trapped by 320-foot-high Friant Dam at the base of the Sierra Nevada. The big dam provides irrigation and flood control. The river flows northwest to find, with the Sacramento, a common outlet to the Pacific. South of Fresno, three other rivers, the Kaweah, Tule, and Kern, never reach the ocean at all. Their waters feed thirsty acres, then drain into lakes. They supplement the meager six-inch rainfall of the southern Valley (23 inches falls in the north).

Gold rather than agricultural riches lured the Valley's early settlers. They discovered that earlier Spanish explorers had tagged musical-sounding Spanish names to rivers and mountains. When the gold rush subsided, many settlers "discovered" the good earth, and began wheat and cattle raising. Later, thousands of ships hauled California grain around Cape Horn to Europe.



Burdened, square-rigged ships plied Valley rivers, sometimes between trees so thick that breezes died. Then, crewmen leapt ashore with ropes and pulled the vessels by hand. River traffic helped the growth of Sacramento, one-time trading outpost, now the Valley's industrial, financial, and shipping dynamo. Southwest of the capital, Stockton is tied to San Francisco Bay by a channel deep enough for ocean-going vessels.

Central Valley yields half the world's supply of dried fruits. Its farms produce millions of tons of grains, vegetables, meat, dairy and poultry products.

More is coming. The Trinity River, rising near Mt. Shasta, flows west. A new project will divert some of its waters through the mountains to join the Sacramento and nourish the Valley.—S.H.

Snow-cloaked Mt. Shasta (14,162 ft.) overlooks Shasta Dam

U. S. DEPT. OF THE INTERIOR

California's Horn Of Plenty

Central Valley, last in a series on United States Valleys

WATER from the vast, hill-rimmed lake created by Shasta Dam (above) will flow southward, making vegetables grow in the southern part of California's 450-mile-long Central Valley. Joining other streams, it will help nourish around 220 temperate and semitropical crops. It will help support nearly 60,000 farms. It will help bring bountiful life down the whole length of a valley bigger than the Nile's, larger in total area than all of England.

Farms aren't all that dot the Central Valley. Smokestacks tower above 2,000 factories, half of which process crops. Some 83 thriving towns and cities sprawl in this broad green belt between ranges of the Rockies. Among them are Sacramento, California's capital, and Stockton, Fresno, Merced, Modesto, Lodi, Chico, and oil-refining Bakersfield.

Farmlands spread across the Valley for an average of 120 miles before mountains rear up. The long slopes of the Sierra Nevada rise in the east; the Coast Ranges hump against the western sky. The Cascade Range and Klamath Mountains wall off the north. Five hundred miles away, the Tehachapi Mountains enclose the lower Valley—down where fertile land needs water most.

Pacific Ocean clouds lavish billions of tons of snow and rain each year on western and northern ranges. Most escapes into the Pacific. But Shasta Dam, world's second-largest concrete structure (after Grand Coulee), harnesses three northern rivers to keep the lower valley nourished, rainfall or not. "We're moving the rains south," men say proudly at Shasta Lake—which holds enough water to

QUENTIN KEYNES

ranged from Indochina to the Khyber Pass. Today the Indian government keeps watchful eyes on about 350 survivors. Most are in such protected areas as Assam's Kaziranga Reserve. Only a few have reached the world's zoos; captive rhinos usually are a smaller African type.

The great Indian rhinoceros has an even rarer cousin. You'll find him amid tangles of luxuriant tropical growth at the western tip of Java. The Javan rhinoceros is probably one of the least-viewed of the world's large animals. None of his breed is known to exist in zoos. Science has gleaned little reliable information about him. In 1936 a report stated that the species "will soon be a thing of the past." Today, authorities say only twenty to forty animals survive.

The Sumatran rhino, Asia's third species, ranks as the world's smallest. He bears two horns. His hide bristles with short hair. Last survivors are scattered in inaccessible areas of Indonesia and the Malay Peninsula.

Once Asia's rhinos were common. What happened? For one thing, they carry a price on their noses. Orientals attribute great powers to the rhino's horn. Powdered, it has been their most valued "wonder drug" for centuries. In fact, almost every part of the animal's body is used in various rites or cures. Western rulers once used rhino-horn cups to make poison harmless. Prices up to $150 a pound have been offered for rhino horn in recent years. Little wonder that incessant hunting has brought the animals to the verge of extinction.—J. A.

National Geographic Magazine—March, 1957, "Stalking the Great Indian Rhino" (school price 55¢).

E. P. GEE

Visitors startle mud-bathing great Indian rhino at Kaziranga Reserve, Assam

UMI

LEE MERRIAM TALBOT

Rare Rhinos Of Asia

E. P. GEE

IN Assam, India, climb aboard a *gaddi* (below). Stare beyond your elephant's flopping ears as his trunk helps carve a path through tall, tough grasses. Suddenly a clearing opens. The rhythmic gait stops short. Fresh out of a mud bath looms one of the world's rarest and most spectacular large animals. Look hard—but look out.

The great Indian rhinoceros (above and left), second largest of the world's surviving rhino species, may tower six feet tall at the shoulder. One animal can weigh two tons. Hide resembling armor plate covers a 14-foot-long body more like a prehistoric tank than an animal. Oddly enough he rarely uses his horn for fighting as do African rhinos. Instead, a pair of formidable incisors bite their way through an opponent.

Once the great Indian rhino

a nation newly independent from France. But at last I was assigned to a school in Kompong Cham, northwest of Phnom Penh. With scores of students to teach, life settled into normal routine.

Normal? Well, Cambodia's a long way from Texas, where I come from. About the size of Missouri, it tucks into the western part of what was formerly French Indochina, fitting between Thailand and Laos to the north, and South Viet Nam to the east and south. One great river, the Mekong, nourishes a rich, rice-growing basin and provides transportation for produce of small farms. At Phnom Penh the Mekong meets the Tonle Sap river. River boats crowd the city's water front (below). During the rainy season the Mekong backs up into the Tonle Sap (fresh-water sea), reversing its flow.

Cambodia exports rubber and some 200,000 tons of rice a year. Virgin forests cover about three quarters of the area—a natural resource that has been only slightly tapped. So much for economics. My job is with the people—some 3,500,000 Cambodians—who live mostly in small towns and support themselves from the land. Small in stature, many women wear bloomerlike garments and men don shorts all year round because of the heat. I see few cars in Kompong Cham, but pedicabs swarm through the town. Early each morning rickshas begin flocking through the streets, searching for customers.

Cambodians like to wear gold teeth. They often stain teeth red by chewing betel nut. People eat dried squid, long-buried birds' eggs, fried sparrow (with nothing left out). I don't mind this Cambodian food, but I prefer Chinese restaurants and am delighted to report that the Chinese *do* have chop suey and chow mein, though not the same as ours. For fruit, I can choose among mangoes, papayas, sapodillas with their sweet, brownish pulp, custard apples, 130 varieties of bananas, and many others. But, to avoid amoebic dysentery, I must be sure all fruits and vegetables are clean. I boil drinking water and use chlorine pills. And I swallow vitamins and malaria tablets.

As at home, I find myself, the teacher, on the invitation list to every village festivity—weddings, funerals, school events, Buddhist feasts, Boy Scout meetings. Everyone in town seems to know me and to greet me in Buddhist fashion, with palms together. Because of the expense of renting a house—sometimes as

TRAFFIC HALTS at Phnom Penh where the Mekong meets Tonle Sap river in distance

W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF

RICHARD N. COSTANTINO

Cambodia Is My Classroom

By Richard N. Costantino

BUDDHIST monks in saffron yellow robes shuffle past me as I make my way to school every morning. They're on their way to beg for food, to fill the pails they carry under their gowns. Seeing them reminds me that when I came to Cambodia to teach English, months ago, these yellow-clad *bonzes* were among my first students.

Red tape stalled me in Phnom Penh, the capital, when I arrived to take up my job. The assignment was to help establish English as Cambodia's second language—in place of French. To keep my hand in during the delay, I held classes for the monks in one of the capital's many pagodas. Also, I taught businessmen at the U. S. Information Library.

For a while it seemed I would never see more of this land where the old temple ruins of Angkor form a setting for mysterious dances (right)—

W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF

Blast Off!

THE NAVY'S AEROBEE-HI blasts from its launching site at Fort Churchill, on Hudson Bay, and screams up 250 miles. Lower fins belong to a booster that lasts 2½ seconds, then falls off. Aerobee-Hi is no big-scale July 4 stunt. Such rockets are crammed full of instruments which signal sky secrets.

Some two-score rockets will zoom from the tower during International Geophysical Year (July 1, 1957—December, 1948). Some will catalogue speed and direction of wind 50 to 150 miles up. Others will measure magnetic fields or record atmospheric pressure. Some rockets will stitch a straight seam through weaving northern lights, taking electronic notes of the phenomenon.

Rockets sometimes ride aloft under balloons, as described in April's *National Geographic Magazine*. At 80,000 feet, the radio-controlled missile spouts fire, pierces the balloon and mounts another 50 or 60 miles.

Such research rockets as Aerobee-Hi seem puny compared to some recently-developed rocket weapons. An intercontinental ballistic missile, the mighty Atlas, is designed to hurtle a distance of 5,500 miles, looping 500 miles high, at up to 16,000 miles an hour.

AEROJET-GENERAL

RICHARD N. COSTANTINO

YELLOW-ROBED BONZES, Buddhist monks, give serious attention to English class

much as $1000 a month at the official exchange rates—I live in a hotel where there is no hot water and bathtubs are scarce. Every morning I wake up to the sound of gongs and cymbals, played by Cambodians and Chinese to advertise their movies. Most films are either Indian or Chinese.

On week ends I usually go on a picnic in the surrounding countryside with students and French teachers. As you know, sightseers come to Cambodia for a glimpse of Angkor. I may join them, or visit a modern rubber plantation, or watch a festival in full swing.

RICHARD N. COSTANTINO

My job makes many demands. School is a group of buildings, some of them thatched. To teach English, I found I had to learn French. Even that didn't help much, so I've learned some Cambodian. I've set up a room where students can listen to English language records which help in teaching sounds that are difficult for Cambodians—"ch", "th", and others.

I think interest in learning English has increased. I get requests for grammar books, people speak halting English to me, former pupils write for further help, and students even want to learn American songs and stories about Texas cowboys!

National Geographic References: ***Map***—Southeast Asia (paper, 75¢; fabric, $1.50). ***Magazine***—September, 1952, "Indochina Faces the Dragon" (75¢).

CONSIDER THE PEACH. Pink-cheeked and bursting with mellow flesh and heavy-sugared juice, it tempts us on orchard branch and in supermarket basket. We buy millions of bushels a year, eating the fruit whole, sliced with cream, dried, stewed, pickled, spiced, canned, cooked into pie or jam, and frozen into ice cream.

But is this the full story of the peach? Where did this succulent fruit come from? Did these pink blossoms always add delicate color to America's hillsides in springtime? Does the fuzz serve any useful purpose?

The National Geographic Society's forthcoming book "THE WORLD IN YOUR GARDEN" answers such questions about *all* our familiar fruits. The geographic romance in their life stories will amaze you.

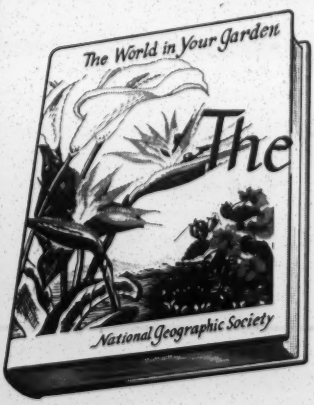
For instance, man long thought the peach originated in Persia (the name is based on a Latin word meaning Persian). But modern botanical sleuths traced the plant eastward to China, where it had been mentioned in literature earlier than 2,000 B. C.

Sometime long before Christ the caravan trails of central Asia witnessed the peach's migration to Persia (modern Iran). By 332 B. C. it had reached Greece, whence it spread over Europe.

Spaniards first introduced it to the New World. French and English likewise planted peaches almost as quickly as they planted colonies. In time, seedlings sprang up in all sections. Best varieties today stem from choice seedlings, systematically bred to improve commercial qualities.

The fuzz? Oh, yes. It baffles insects, fends off disease, and helps prevent cracking. Nectarines, smooth-skinned peaches, do not enjoy the same protection. . . . The 232 pages of this lavishly color-illustrated book will also include sections on our traveling vegetables and flowers.

Teachers and students, by reserving their volumes *now*, are assured of receiving the educational prepublication price of $5.50. Use the reservation form below.



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The World in Your Garden

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